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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/541,173

02/06/2006

Karsten Ruth

Umicore 0143-US

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23719 7590 05/11/2010

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EXAMINER

THOMAS, BRENT C

ART UNIT

PAPER NUMBER

1795

MAIL DATE

DELIVERY MODE

05/11/2010

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/541,173	Applicant(s) RUTH ET AL.	
	Examiner BRENT THOMAS	Art Unit 1795	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 05 February 2010.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-9 and 17-19 is/are pending in the application.
- 4a) Of the above claim(s) 2 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1,3-9 and 17-19 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Response to Arguments

1. Applicant's arguments, see page 6, filed 2/05/10, with respect to the rejection(s) of claim(s) 1-9, and 17-19 under 102 in view of Hitomi have been fully considered and are persuasive. Therefore, the rejection has been withdrawn. However, upon further consideration, a new ground(s) of rejection is made in view of Hitomi in view of Xie et al (US 6,541,150 B1).

Priority

2. Receipt is acknowledged of papers submitted under 35 U.S.C. 119(a)-(d), which papers have been placed of record in the file.

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

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4. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148

USPQ 459 (1966), that are applied for establishing a background for determining

obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

5. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

6. Claims 1, 3-9, and 17-19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hitomi et al (US 2002/0019308 A1) in view of Xie et al (US 6,541,150 B1).

7. With regard to claim 1, Hitomi teaches an electrode for a fuel cell comprising a porous support material with catalyst particles distributed over the surface [0001, 0075, 0076] by techniques such as screen printing and spraying (which would distribute the coating evenly) [0075]. Hitomi further teaches that the porous support material acts as a gas diffusion layer [0076].

Hitomi does not explicitly teach a uniform distribution over the entire volume of the gas diffusion layer. However, in the same field of endeavor, Xie teaches a gas diffusion layer impregnated with a catalyst (col. 3 lines 11-12, fig. 2b), which would feature a uniform volume distribution. It would have been obvious to one of ordinary skill in the art to integrate the catalyst layer of Hitomi into the gas diffusion layer as taught by Xie for the benefit of improving gas permeability and electrical conductivity (Xie col. 3 lines 13-17).

8. With regard to claim 3, Hitomi teaches an average platinum (catalyst) particle size of 2.4 nm, which falls within the claimed range [0079].
9. With regard to claim 4, Hitomi teaches Pt, Pd, Ru, Rh, and Ir as catalysts [0056].
10. With regard to claim 5, Hitomi teaches a concentration per unit area of 1 mg/cm², which falls within the claimed range [0079].
11. With regard to claim 6, Hitomi teaches carbon paper as a porous support material [0075].
12. With regard to claims 7-9, claims 7-9 are drawn to intended use of the catalyst containing layer. Since the catalyst containing layer of Hitomi is substantially similar to the layer of the instant application, as shown in the rejections of claims 1-6 above, it should inherently be compatible with the same applications. See MPEP 2111.02 II.
13. With regard to claim 17-19, Hitomi teaches the application of the catalyst containing layer as part of an electrode in a fuel cell [0001, 0075]. The application of the fuel cell is intended use. Since the catalyst containing layer of Hitomi is substantially similar to the layer of the instant application, as shown in the rejections of

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claims 1-6 above, it should inherently be compatible with the same applications. See MPEP 2111.02 II.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to BRENT THOMAS whose telephone number is (571)270-7737. The examiner can normally be reached on Monday - Thursday, 9:00am-6:00pm (est.).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, PATRICK RYAN can be reached on (571)272-1292. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

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BT

/PATRICK RYAN/

Supervisory Patent Examiner, Art Unit 1795